

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1-81. (Cancelled).

82. (Previously Presented) An optical element, comprising:

a polarization-modulating optical element comprising an optically active crystal having an optical axis, the polarization-modulating optical element having a thickness profile that, as measured in the direction of the optical axis, is variable,

wherein the polarization-modulating optical element is configured to transform an entering light bundle with a first linear polarization distribution into an exiting light bundle with a second linear polarization distribution different from the first linear polarization distribution, and the second linear polarization distribution is an approximately tangential polarization distribution, and

wherein the polarization-modulating optical element comprises at least two planar-parallel portions of different thickness or different optical effective thickness.

83. (Previously Presented) The optical element of claim 82, wherein:

when a first linearly polarized light ray passes through the optical element, a plane of oscillation of the first linearly polarized light ray is rotated by a first angle; and

when a second linearly polarized light ray passes through the optical element, a plane of oscillation of the second linearly polarized light ray is rotated by a second angle different from the first angle.

84. (Previously Presented) The optical element of claim 82, wherein the optically active crystal comprises quartz.

85-92. (Cancelled).

93. (Previously Presented) The optical element of claim 82, wherein the at least two planar-parallel portions are configured as rectangular raster elements.

94-102. (Cancelled).

103. (Previously Presented) The optical element of claim 82, further comprising:

a first group of substantially planar-parallel portions; and

a second group of substantially planar-parallel portions,

wherein:

when linearly polarized light passes through the optical element, a plane of oscillation of the linearly polarized light is rotated by a first angle of rotation  $\beta_1$  by the first group of substantially planar-parallel portions,

when linearly polarized light passes through the optical element, a plane of oscillation of the linearly polarized light is rotated by a second angle of rotation  $\beta_2$  by the second group of substantially planar-parallel portions, and

$\beta_1$  and  $\beta_2$  are approximately conforming to the expression  $|\beta_2 - \beta_1| = (2n+1) \cdot 90^\circ$ , with  $n$  representing an integer having a value that is greater than or equal to zero.

104. (Previously Presented) The optical element of claim 103, wherein  $\beta_1$  and  $\beta_2$  are approximately conforming to the expressions  $\beta_1 = 90^\circ + p \cdot 180^\circ$ , with  $p$  representing an integer, and  $\beta_2 = q \cdot 180^\circ$ , with  $q$  representing an integer other than zero.

105-109. (Cancelled).

110. (Previously Presented) An optical arrangement, comprising:  
the polarization-modulating optical element according of claim 82; and  
a second polarization-modulating optical element arranged so that, when light passes through the optical arrangement, the light can pass through the first and second polarization-modulating elements.

111-114. (Cancelled).

115. (Previously Presented) The optical arrangement of claim 110, wherein the second polarization-modulating optical element causes a 90°-rotation of the oscillation plane of a linearly polarized light ray passing through the optical arrangement.

116. (Cancelled).

117. (Previously Presented) A system, comprising:  
an illumination system;  
a projection objective; and  
the optical element of claim 82 in the illumination system,  
wherein the system is a microlithography optical system.

118. (Previously Presented) A system, comprising:  
an illumination system;  
a projection objective; and  
the optical arrangement of claim 110 in the illumination system,  
wherein the system is a microlithography optical system.

119. (Previously Presented) The system of claim 117, further comprising:  
a substrate; and  
an immersion medium with a refractive index different from air is between the substrate and an optical element nearest to the substrate.

120. (Previously Presented) A method, comprising manufacturing a micro-structured semiconductor component using a system in accordance with claim 117.

121-122. (Cancelled).

123. (Previously Presented) An optical element, comprising:  
a polarization-modulating optical element comprising an optically active crystal having an optical axis, the polarization-modulating optical element having a thickness profile that, as measured in the direction of the optical axis, is variable,  
a first group of substantially planar-parallel portions; and  
a second group of substantially planar-parallel portions,  
wherein:

the polarization-modulating optical element is configured to transform an entering light bundle with a first linear polarization distribution into an exiting light bundle with a second linear polarization distribution different from the first linear polarization distribution, and the second linear polarization distribution is an approximately tangential polarization distribution,

when linearly polarized light passes through the optical element, a plane of oscillation of the linearly polarized light is rotated by a first angle of rotation  $\beta_1$  by the first group of substantially planar-parallel portions,

when linearly polarized light passes through the optical element, a plane of oscillation of the linearly polarized light is rotated by a second angle of rotation  $\beta_2$  by the second group of substantially planar-parallel portions, and

$\beta_1$  and  $\beta_2$  are approximately conforming to the expression  $|\beta_2 - \beta_1| = (2n+1) \cdot 90^\circ$ , with n representing an integer having a value that is greater than or equal to zero.

124. (Previously Presented) The optical element of claim 123, wherein  $\beta_1$  and  $\beta_2$  are approximately conforming to the expressions  $\beta_1 = 90^\circ + p \cdot 180^\circ$ , with p representing an integer, and  $\beta_2 = q \cdot 180^\circ$ , with q representing an integer other than zero.